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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Paper No. 9

Application Number: 09/283,169  
Filing Date: April 01, 1999  
Appellant(s): Lawrenz-Stolz

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Alan A. Limbach  
For Appellant

**MAILED**  
AUG 31 2000  
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**EXAMINER'S ANSWER**

This is in response to appellant's brief on appeal filed June 13, 2000.

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Therefore, it is presumed that there are none. The Board, however, may exercise its discretion to require an explicit statement as to the existence of any related appeals and interferences.

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**(3)     *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

**(4)     *Status of Amendments After Final***

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5)     *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6)     *Issues***

The appellant's statement of the issues in the brief is correct.

**(7)     *Grouping of Claims***

The rejection of claims 10, 12, and 14-21 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

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**(8) *Claims Appealed***

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) *Prior Art of Record***

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

4,147,403	d'Auria et al	04-1979
4,079,404	Comerford et al	03-1978
4,269,648	Dakss et al	05-1981
4,818,062	Scifres et al	04-1989

**(10) *Grounds of Rejection***

Claims 10, 12, and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over d'Auria et al et al, Comerford and Dakss. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over d'Auria et al, Comerford, Dakss, and Scifres. These rejections are set forth in prior Office action, Paper No.6.

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**(11) Response to Argument**

Claims 10, 15, and 19

At page 6 of the brief, appellant argues that the cited references fails to teach or suggest all the claimed elements. Specifically, a cylindrical lens (second optical fiber) having at least the length of the linear array is attached directly to the light entrance side of each of the optical fibers using a bead of glue in a manner to center the lens on the light entrance sides (or ends) "independent of the holder" or "to facilitate alignment independent of the holder". Appellant further argues that d' d'Auria fails to teach using bead of glue in the manner recited in the claims to attach and align the lens to the transport fibers independent of the holder.

In contrast, Examiner respectfully traverses appellant position. Fig. 5 of the d'Auria et al reference shows all of the substantially claimed elements. The optical fibers (21, 22, 23) are mounted on the substrate perpendicular to the axis of a common coupling fiber 3 (lens) which enables coupling to take place to as many laser diodes as there are transmission fibers. See lines 32-39 of column 4. The dowels are used for positioning the fibers on the substrate. Similarly, in the appellant's invention the fibers are positioned on the substrate (holder) using V-grooves technique (see Fig. 4 of appellant's invention).

As stated in lines 47-54 of column 4 in d'Auria et al, the assembly of the fibers on the substrate is performed in the same way as in the situation where there is only one transmission fiber, the coupling fiber (lens) being first of all placed in position and then stuck to the substrate, and the transmission fibers then being arranged so that their apertures abut against the coupling

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fibers. The d'Auria et al further teaches that a drop of liquid having a refractive index close to that of the material of which the two fibers are made, can be arranged between the fiber doing duty as coupling lens and the aperture of the transmission fiber. See lines 55-59 of column 3.

Thus, the d'Auria et al discloses substantially all claimed limitations, but fails to disclose a bead of glue used to attach the lens to the fibers. Even though, as discussed above, the d'Auria et al reference discloses attaching the lens fiber and transmission fibers to the substrate, it discloses use of a liquid drop between the lens fiber and the transmission fibers. The techniques of using glue for attaching optical parts are well known and exemplified by the Dakss et al reference.

The Dakss et al reference discloses a method of mounting coupling lenses on optical fibers wherein the coupling lens is mounted on the fiber using a bead of glue independent of the holder. The advantages of the gluing technique used in the Dakss et al are discussed in lines 55-65 of column 3. Also, various modifications are discussed in lines 5-23 of column 4 in the Dakss et al reference.

Therefore, the ordinary artisan would have found it to be obvious at the time of the invention to use a bead of glue as taught in the Dakss et al for attaching the fibers to the coupling lens for the purpose of efficiently coupling laser radiation from the laser diode array and avoiding the problem of misalignment by increasing mechanical strength of the device.

Regarding limitation "said cylindrical lens **attached directly to \_\_\_\_\_ in a manner to self center and align the cylindrical lens with respect to the light entrance sides independent of the holder**", it should be noted that applicant is claiming the product including the process of

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attaching the lens independent of the holder as such the lens is self centered and aligned, and therefor are of "product-by-process" nature. The courts have been holding for quite some time that: the determination of the patentability of product-by-process claim is based on the product itself rather than on the process by which the product is made. In re Thrope, 777 F. 2d 695, 227 USPQ 964 (Fed. Cir. 1985); and patentability of claim to a product does not rest merely on a difference in the method by which that product is made. Rather, it is the product itself which must be new and unobvious. Applicant has chosen to claim the invention in the product form. Thus a prior art product which possesses the claimed product characteristics can anticipate or render obvious the claim subject matter regardless of the manner in which it is fabricated. A rejection based on 35 U.S.C. section 102 or alternatively on 35 U.S.C. section 103 of the status is eminently fair and acceptable. In re Brown and Saffer, 173 USPQ 685 and 688; In re Pilkington, 162 USPQ 147.

The claimed device includes the lens attached to the fibers through the bead of glue. It should be further noted that Examiner has allowed method claims in the parent case (08/982,018) which is issued as US Patent No. 5,949,932.

At pages 7 and 8 of the brief, appellant argues that there is no suggestion or motivation for the combination suggested by the Examiner. Appellant argues that adding the gluing step of Dakss does not address any apparent deficiency of the d'Auria device, or serve any other apparent purpose. The Examiner also fails to specify exactly how the Dakss technique can be applied to the

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d'Auria device to render the claim obvious. If the Dakss gluing step is performed after the lens and fibers are placed on the reference face, then the gluing step serves no purpose because the lens and fibers are already aligned to each other by the reference face, dowels, and shims. If the gluing step serves no purpose, then certainly there would be no suggestion or motivation for adding it to the d'Auria device. At pages 8 and 9 of the brief, appellant further argues that the d'Auria and Dakss references teach away from each other. Plainly the d'Auria device is incompatible with the Dakss gluing technique. The whole premise of the d'Auria device is that a reference face and dowels mechanically secure the lens and fibers in position before they are glued. This clearly teaches away from any need for, or any use of, a gluing technique that must allow the elements to move relative to each other while they are being glued together.

In contrast, in the d'Auria et al device the coupling lens fiber is placed in position and stuck down using two drops of adhesive at its ends, in such a fashion that it bears against the reference face 40 and the two dowels 54 and 55. Thus, the dowels 54 and 55 define the position of the coupling fiber (lines 38-39 of column 4). Thus, there is desirability in the d'Auria et al device to attach the coupling lens using drops of adhesive. Further, in lines 55-57 of column 4, d'Auria et al explicitly discloses another method makes it possible to discard the positioning dowels 54 and 55. Thus, it is clear that there is desirability in the d'Auria et al device to attach the coupling fiber without using positioning dowels. The Dakss et al reference teaches that the lens can be attached to the fiber without using any support means as such makes it inexpensive device. The ordinary artisan would certainly be motivated to use glue as taught by Dakss et al to directly



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attach the coupling fiber to the transmission fibers. Further, the d'Auria et al device uses a drop of transparent liquid between the coupling fiber and the transmission fibers. Such transparent liquid inherently would provide adhesion characteristic, since it would be hardened after application. Thus, it certainly further motivates the ordinary artisan to provide drop of glue between the fiber and the transmission fibers as shown by Dakss et al.

Also, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

At page 9, appellant argues that there is no suggestion that the Dakss technique can be used to attach a lens to a plurality of optical fibers. The Dakss patent relates to the attachment of individual microspheres to individual fibers. There is no hint or suggestion that this method could be applied to simultaneously attaching a single elongated fiber lens to multiple transport fibers.

In contrast, from collective teachings of the d'Auria et al patent and the Dakss patent, the ordinary artisan would certainly apply a bead of glue to each of the transmission fibers. Similarly, in appellant's invention each of the fibers are attached to the lens using the bead at each end of the fibers. Further, it is noted that the feature upon which applicant relies (i.e., simultaneously

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attaching a single elongated fiber lens to multiple transport fibers) is not recited in the rejected claims and also the limitation is a process step of attaching the lens to the fibers.

At pages 10 and 11, appellant traverse the motivations stated by the Examiner. Adding the Dakss gluing technique to the d'Auria device offer no apparent improvement to collimate the laser radiation to avoid misalignment. In fact, adding glue in this manner would stress the fibers and lens. Therefore, the appellant respectfully submits that the motivation stated by the Examiner does not exist. Appellant further argues that there are no cost reductions are evident from the stated combination.

In contrast, adding beads of glue in the d'Auria et al device will certainly increase mechanical strength of the device and avoid transverse misalignment which may be caused by vibration or other outside forces. The modified device certainly would be less expensive to produce as taught by Dakss et al.

Applicant has not specifically argued dependent claims 12, 14, 16-18, and 20-21, these claims are considered to stand or fall with the independent claim. In re King, 231 USPQ 136 (Fed. Cir. 1986).

In conclusion, it is believed evident that the Examiner has made a prima facie case of obviousness concerning the subject matter of the appealed claims.

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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



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August 30, 2000

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